

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of	:	Attorney Docket No. 2006_1367A
Shigeru NAKATSU et al.	:	Confirmation No. 3796
Serial No. 10/590,666	:	Group Art Unit 1793
Filed August 25, 2006	:	Examiner Pritesh D. Darji
METHOD FOR RECOVERING NOBLE METALS FROM METALLIC CARRIER CATALYTIC DEVICE	:	Mail Stop: RCE



REPLY TO ADVISORY ACTION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Further and favorable reconsideration is requested in view of the following remarks.

In the Advisory Action, the Examiner states that "...Vesely teaches mixed acid used for separating platinum from the residue as chloroplatinic acid. See col. 2, lines 36-54."

However, it appears that the Examiner does not have a full understanding of the technique described in the Vesely reference.

Thus, as Applicants noted in their most recent response, the method disclosed in this reference is for the recovery of platinum from a deactivated catalyst, basically comprising the following two steps:

- (i) a step of initially treating a deactivated catalyst such as a platinum-alumina composition with a strong acid; and
- (ii) a step of recovering platinum from a platinum-containing residue, which is obtained after the treatment in step (i).

Treatment with mixed acid, i.e., aqua regia, which the Examiner referred to in the above-quoted passage of the Advisory Action, concerns step (ii) above.

The method of claim 1 of the present application, on the other hand, corresponds instead to step (i) above. Vesely neither teaches nor suggests using mixed acid in the above step (i).

Column 2, lines 36-54 of Vesely, which the Examiner is referring to, is an explanation of the above step (ii), and as Applicants have previously noted, Vesely is silent about using a mixed acid which contains sulfuric acid and nitric acid to treat deactivated catalyst in the above first step (i).

The Examiner also says, " ... it would have been obvious to use nitric acid as functionally equivalent to phosphoric acid because both nitric acid and phosphoric acid are known to be used for treating noble metal catalysts."

In the present invention, however, the purpose of using nitric acid in recovering catalytic component-supporting wash coat from a metallic carrier catalytic device is to form an oxide layer on the surface of the metallic carrier and to thereby prevent the metallic carrier surface from being dissolved by sulfuric acid, so that the catalytic component-supporting wash coat can be effectively recovered from the metallic carrier without substantial dissolution of the metallic carrier (see the present specification, page 6, lines 14-23). This feature of the present invention is neither taught nor suggested either in Toshiyuki (JP '619) or in Vesely at all.

As clearly seen in Comparative Examples 2 and 3 of the present specification, phosphoric acid is not very effective in protecting the surface of a metallic carrier, and so contrary to the position of the Examiner, it cannot be said that phosphoric acid is functionally equivalent to nitric acid. Therefore, one skilled in the art would not have been motivated by Toshiyuki to use, as strong acid, a mixed acid of sulfuric acid and nitric acid in the first step (i) of Vesely.

For these reasons, and those set forth in the previous response, Applicants maintain their position that the presently claimed invention is clearly patentable over the applied references, placing the application in condition for allowance. Such allowance is solicited.

Respectfully submitted,

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Posted on December 20, 2009 at 4:35 PM

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